



Parcel C Remedial Action



Project Update for Parcel C Well Installation and Soil Vapor Sampling Results Hunters Point Naval Shipyard San Francisco, California

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Outline Parcel C Remedial Action



- Well installation progress
- Supplemental soil vapor sampling results
- Verified SVE systems layout
- What's Next
- Schedule



Well Installation Progress



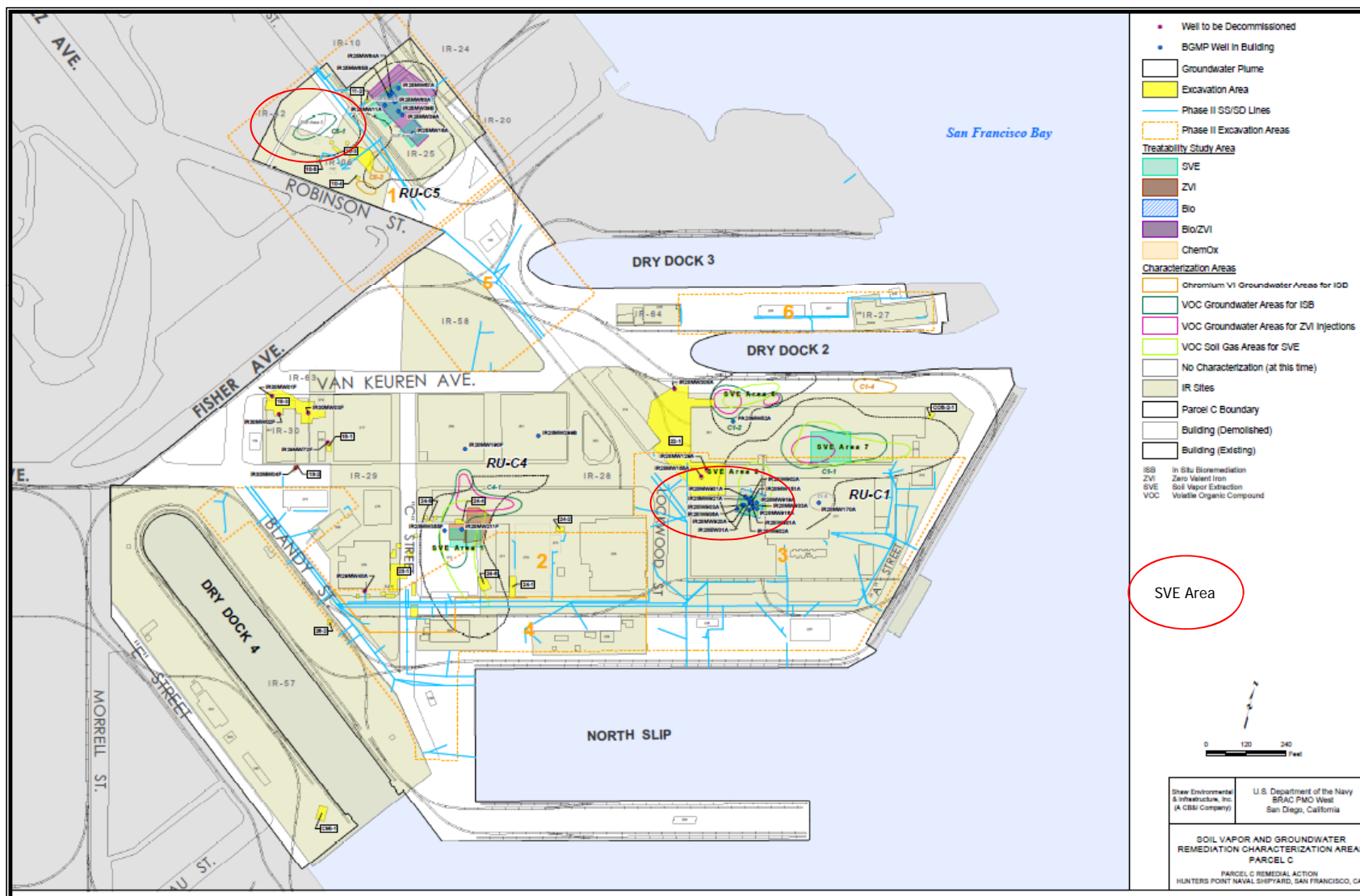
- Well abandonment completed as of 8/13 (24 wells in excavation areas were abandoned)
- Four monitoring wells installed as of 9/25 (up to 25 planned based on characterization data as presented in the final work plan)
- 33 soil vapor extraction wells installed as of 9/25 (77 planned)



New monitoring well IR28MW566A inside Bldg 281 – September 18, 2013



SVE Areas





Building 281 – Well Installation



Soil vapor
sampling point
(characterization
location)

New SVE well



Inside of Building 281 – September 18, 2013



RU-C5 Characterization Results SVE Plume 3 and SVE Plume 8



- Soil vapor sampling event 8/13 to 8/22
- Supplemental soil vapor samples collected in SVE Plume Area 3 and 8
- Samples collected to verify SVE system locations



Soil vapor sampling point – September 18, 2013



RU-C5 SVE Area 3 - Results



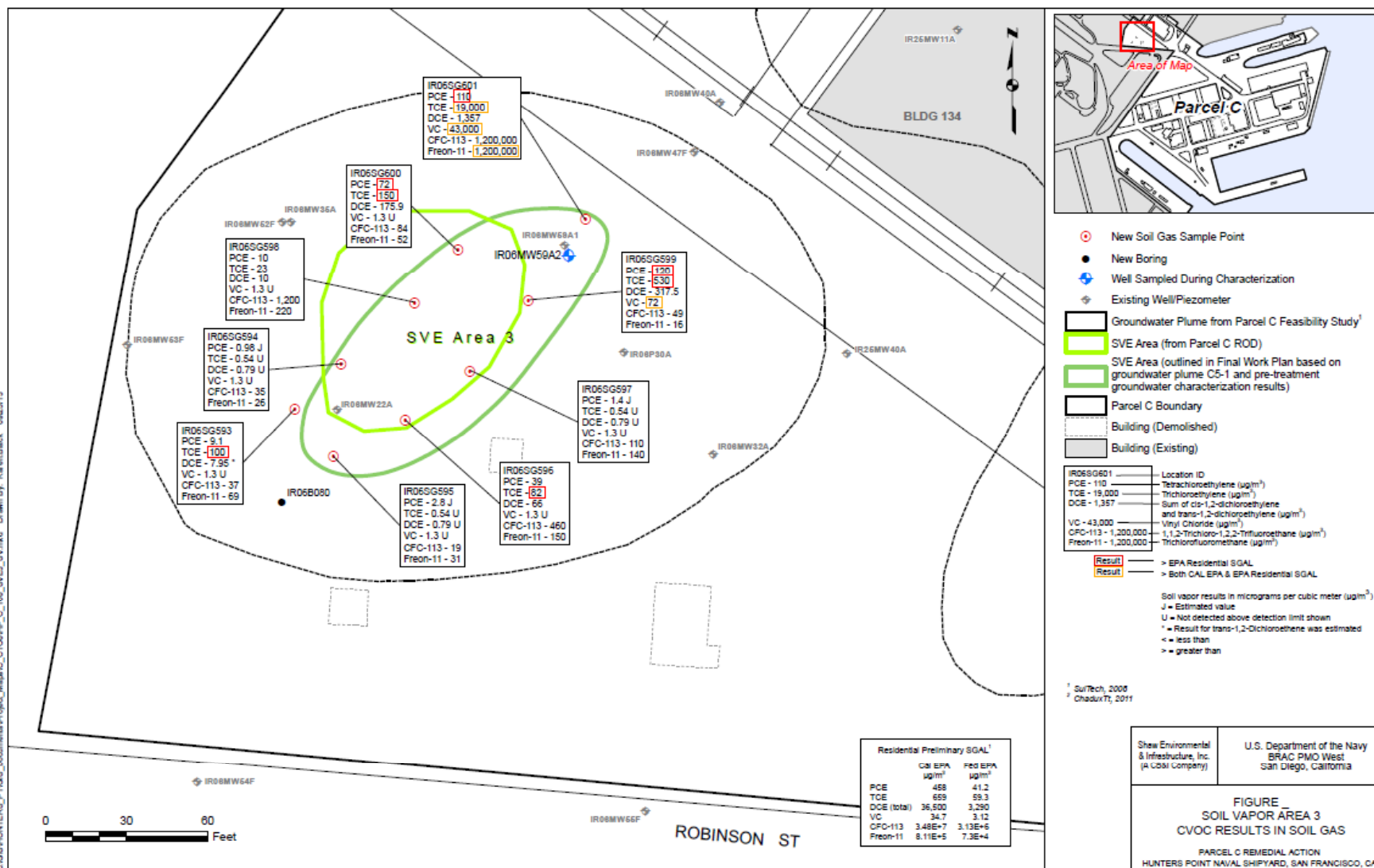
- Highest concentration TCE and VC in soil vapor at IR06SG601, northeast of IR06MW59A1, at 19,000 and 43,000 $\mu\text{g}/\text{m}^3$, respectively.
- Highest concentration of PCE in soil vapor at IR06SG599 at 120 $\mu\text{g}/\text{m}^3$
- Freon 11 and CFC 113 were also detected at a concentration of 1,200,000 $\mu\text{g}/\text{m}^3$; Freon 11 exceeded the California and EPA SGALs

Residential Preliminary Soil Gas Action Levels (SGAL) for comparison (ChaduxTt, 2011)

	Cal EPA <u>$\mu\text{g}/\text{m}^3$</u>	Fed EPA <u>$\mu\text{g}/\text{m}^3$</u>
PCE	458	41.2
TCE	659	59.3
VC	34.7	3.12
CFC-113	3.48E+7	3.13E+6
Freon 11	8.11E+5	7.3E+4

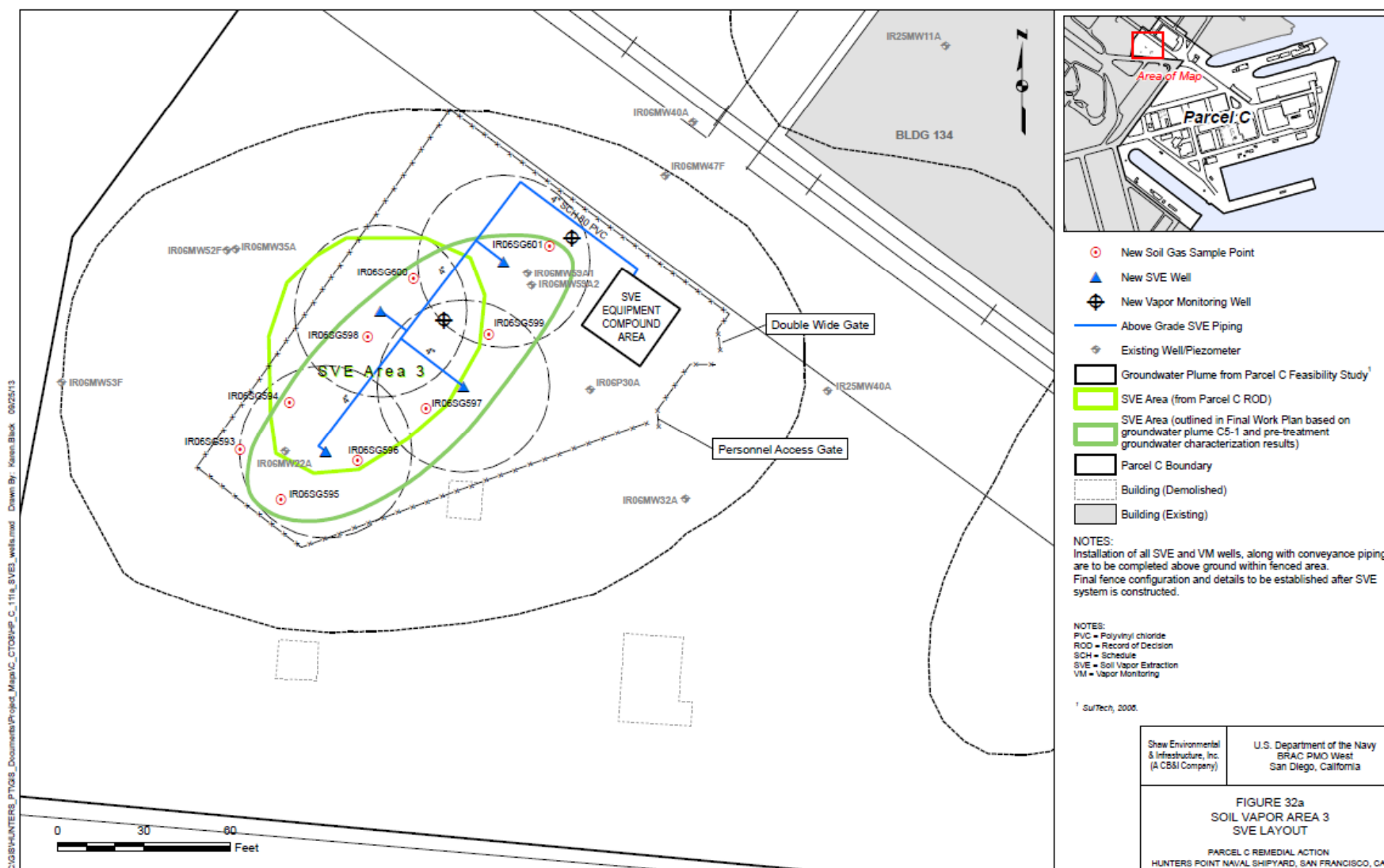


SVE Area 3 Soil Vapor Results





SVE Area 3 Vapor Extraction Site Layout





SVE Area 8 Soil Vapor Extraction Results (Inside Bldg 253)



- Highest concentration of PCE in soil vapor at IR28SG617 at 480 $\mu\text{g}/\text{m}^3$ northeast of the spray booths
- Highest concentration of TCE in soil vapor at IR28SG588 at 300,000 $\mu\text{g}/\text{m}^3$ (estimated [j])
- Highest concentration of DCE (total of cis and trans) in soil vapor at IR28SG617 at 612 $\mu\text{g}/\text{m}^3$ northeast of the spray booths

Residential Preliminary SGAL

	Cal EPA <u>$\mu\text{g}/\text{m}^3$</u>	Fed EPA <u>$\mu\text{g}/\text{m}^3$</u>
PCE	458	41.2
TCE	659	59.3
DCE	36,500	3,290
VC	34.7	3.12



SVE Area 8 Soil Vapor Extraction Results (Outside Bldg 253)



- Highest concentration PCE and TCE in soil vapor at IR28SG589, at 2,100 and 90,000 $\mu\text{g}/\text{m}^3$
- Highest concentration of DCE (total of cis and trans) in soil vapor at IR28SG586 at 1,300 $\mu\text{g}/\text{m}^3$

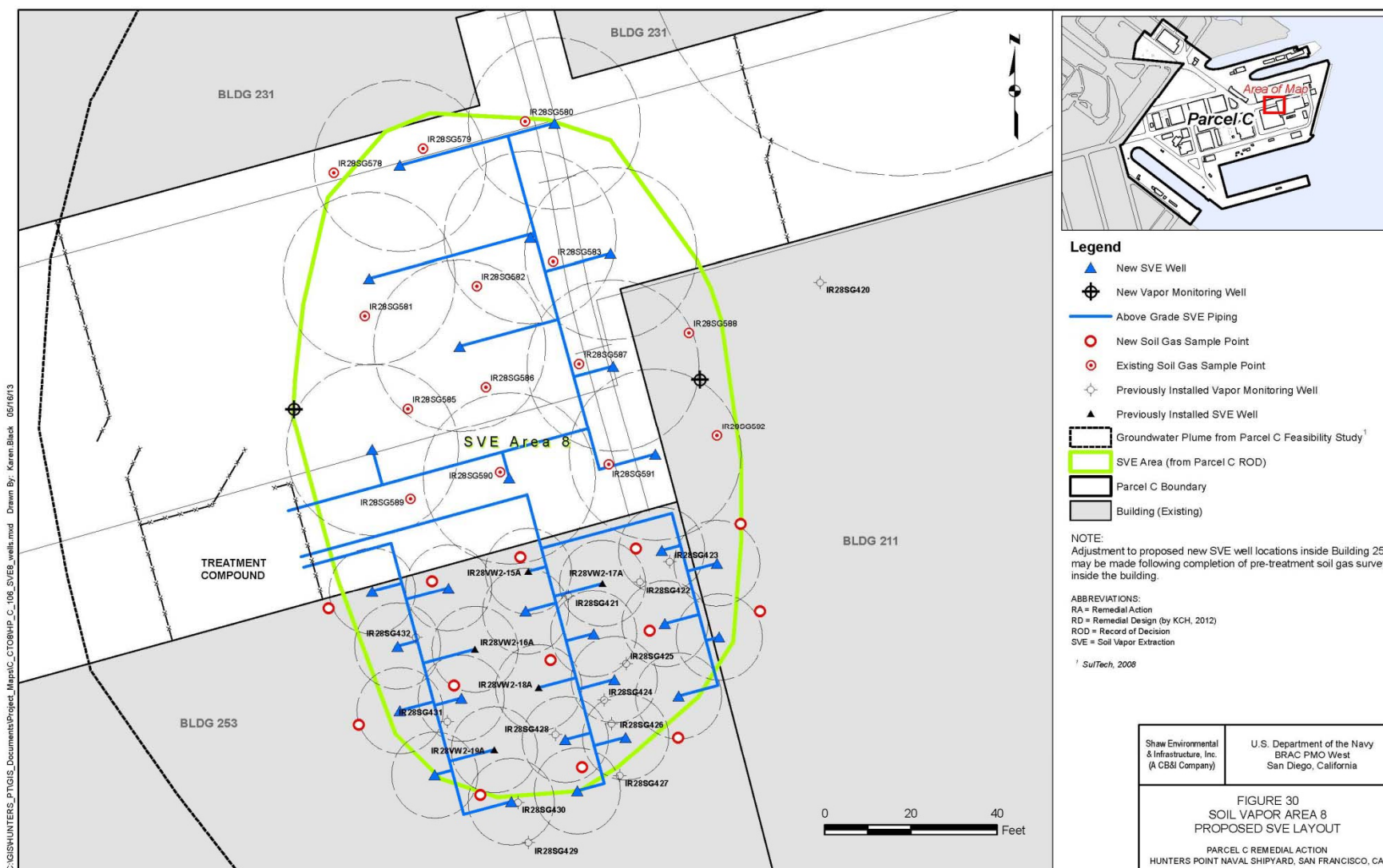
Residential Preliminary SGAL

	Cal EPA $\mu\text{g}/\text{m}^3$	Fed EPA $\mu\text{g}/\text{m}^3$
PCE	458	41.2
TCE	659	59.3
DCE	36,500	3,290
VC	34.7	3.12





SVE Area 8 Vapor Extraction Site Layout





What's Next



- Complete concrete coring and well installation based on the Final Work Plan
- SVE systems delivery, assembly, and installation
- Baseline groundwater sampling



Schedule



Activity	Date
<i>Complete Excavation of RU-C4 and Over-excavations As Needed</i>	<i>September – October 2013</i>
<i>Import Clean Backfill</i>	<i>September – October 2013</i>
<i>Placement of Backfill and Site Restoration</i>	<i>October – November 2013</i>
Continue Concrete Coring and Well Install	September – November 2013
SVE System Assembly and Install	October – December 2013
Baseline Groundwater Sampling	November 2013
Remedial Injection Bio and ZVI	December 2013/January 2014
Post-injection Groundwater Sampling	March 2014 (est.)